

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

F76Wen
Rg

FINANCIAL HANDICAPS

FROM

THE WESTERN RANGE—A GREAT
BUT NEGLECTED NATURAL RESOURCE

FOREST SERVICE

U. S. DEPARTMENT OF AGRICULTURE

LIBRARY
RECEIVED
★ JUL 11 1935 ★
U. S. Department of Agriculture



SENATE DOCUMENT 199—SEPARATE No. 7

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1936

FINANCIAL HANDICAPS

By E. I. KOTOK, Director, California Forest and Range Experiment Station

A number of financial handicaps faced by the range livestock producer have tended to prevent the most effective balance between capital investments, production costs, breeding herds, credit facilities, and marketing opportunities. Since a seriously unbalanced relationship adversely affects the opportunity for profit, and therefore tends to affect the management of the range, an understanding of the handicaps is needed.

The livestock producer has not been entirely a free agent to manipulate at will the elements that enter into production costs, nor has he been able to adjust these with the constant fluctuations in the market price of his ultimate salable product. This section will attempt to explain the ways in which financial factors largely beyond the control of the producer have influenced business management and range practice, tending toward range depletion.

THE RELATION OF CAPITAL INVESTMENTS TO PROFITS AND RANGE DEPLETION

The home ranch, the range, the breeding herds, and the other required improvements and facilities form the production plant of the livestock business. For continued and sustained returns these elements must be in balance with each other and with the salable annual output, otherwise potential profits may be converted to actual losses.

The percent of the total investment carried in lands, herds, improvements, and facilities varies markedly from operator to operator, but there are general and distinct regional differences and also characteristic variations between cattle and sheep outfits. These variations are considered as they influence profits, range-management practices, and range depletion.

In table 30 the percentage of the capital investment in each of the major inventory items is given. These are composite figures and represent approximations based on a series of studies conducted by the State agricultural experiment stations and the United States Department of Agriculture. The data available present difficulties in the segregation of the items and distinct limitations in making regional or periodic comparisons. The range livestock enterprise varies widely, from the farmers who have a few head of stock providing a supplemental source of income, at one extreme, to the livestock producer owning 50,000 sheep or 10,000 cattle on the other end of the scale. Obviously, summaries covering such vast differences in size of units must either include all ranches in a region or must be carefully selected samples. Another difficulty is that continuous records on the same sampled ranches do not cover an extended period of time; neither are the fluctuations in the commodity value

of the dollar considered in all studies. But even with these limitations, the significant trends between regions may be safely singled out.

TABLE 30.—Approximate percentages of capital investments in the livestock industry in major items, for 6 regions

| Region | Cattle outfits | | | Sheep outfits | | |
|---|----------------|---------|---------|---------------|---------|---------|
| | Herds | Land | Other | Herds | Land | Other |
| | Percent | Percent | Percent | Percent | Percent | Percent |
| 1. Montana and North Dakota..... | 38.0 | 50.0 | 12.0 | 56.0 | 37.0 | 7.0 |
| 2. Colorado, South Dakota, Wyoming, Nebraska, Kansas..... | 42.0 | 48.0 | 10.0 | 52.0 | 38.0 | 10.0 |
| 3. Arizona and New Mexico..... | 52.0 | 31.0 | 17.0 | 55.0 | 31.0 | 14.0 |
| 4. Utah, Idaho, Nevada..... | 43.0 | 45.0 | 12.0 | 56.0 | 33.0 | 11.0 |
| 5. California..... | 40.0 | 50.0 | 10.0 | 53.0 | 35.0 | 12.0 |
| 6. Washington, Oregon..... | 38.0 | 50.0 | 12.0 | 50.0 | 39.0 | 11.0 |

The composite average indicates that somewhere near 50 percent of the capital investment in the cattle industry is in lands, 40 percent in herds, and 10 percent in improvements and facilities. In the more settled regions, where land prices are higher, the investment in lands is above this average. As shown in table 30, less than a third of the investments for Arizona and New Mexico is in lands and more than half in herds. In part this may be explained by the fact that this region includes extensive areas of public domain and national forests used for grazing. There is, however, in this region a correspondingly greater investment required for improvements which the livestock owner has been forced to build on the public range.

For sheep the average percentage of investment in land varies from 31 percent in the Southwest to 39 percent in the Pacific Northwest, and in herds from 50 percent in the Pacific Northwest to 56 percent in eastern Montana, North Dakota, and also in parts of the inland empire.

The important inferences that may be drawn from these data are that all through the range country, except in the Southwest, the cattlemen has had to invest relatively more heavily in lands than the sheepman; that Arizona and New Mexico producers have less investment in lands and correspondingly higher percentages in herds for cattle than any of the other regions; that Utah, Idaho, and Nevada sheepmen have also a relatively low percent of investment in lands and a correspondingly higher percent in herds.

The percent of the total investment in lands or in herds varies materially as the price of livestock goes up or down. While both lands and livestock have irregularly risen in unit price, the former has been more stable with a general upward trend and the latter has fluctuated within wide margins. This in effect means that if the figures in table 30 represent individual years when livestock unit prices were high, the percentage shown as invested in stock is relatively higher than it would be over a number of years. Most of the data are from studies conducted in 1927-28, when livestock prices were high, which means in effect that the actual percentage given as the investment in lands is lower than it would be over extended periods. The general rise in livestock unit prices and the periodic changes are illustrated by data given in tables 31 and 32.

TABLE 31.—Trend of range-cattle prices, in actual value per head, and in relative purchasing power of the dollar, 1867-1928 ¹

| Year | Actual value | Relative purchasing power | Year | Actual value | Relative purchasing power |
|-----------|--------------|---------------------------|-----------|--------------|---------------------------|
| | Dollars | Percent | | Dollars | Percent |
| 1867----- | 15.79 | 44.2 | 1902----- | 18.76 | 95.5 |
| 1872----- | 18.12 | 62.8 | 1907----- | 17.10 | 77.7 |
| 1877----- | 15.99 | 69.7 | 1912----- | 21.20 | 93.3 |
| 1882----- | 18.89 | 84.0 | 1917----- | 35.88 | 97.2 |
| 1887----- | 19.79 | 103.3 | 1922----- | 23.80 | 71.3 |
| 1892----- | 15.16 | 83.2 | 1927----- | 29.87 | 84.2 |
| 1897----- | 16.65 | 103.5 | 1928----- | 38.95 | 110.5 |

¹ (173).

TABLE 32.—Farm value per head of cattle and sheep in four western States, 1932-34 ¹

| State | Cattle | | | Sheep | | |
|-----------------|---------|---------|---------|--------|--------|--------|
| | 1932 | 1933 | 1934 | 1932 | 1933 | 1934 |
| Idaho----- | \$19.46 | \$15.88 | \$18.05 | \$3.22 | \$4.10 | \$4.86 |
| Montana----- | 20.87 | 17.19 | 18.28 | 2.97 | 4.12 | 4.58 |
| Oregon----- | 21.09 | 15.91 | 24.09 | 2.93 | 3.92 | 4.64 |
| Washington----- | 25.52 | 19.87 | 26.63 | 3.31 | 4.45 | 5.00 |

¹ Matson, Palmer, and Haight. Practical Livestock Operations and Credits. Farm Credit Administration, Twelfth District, Federal Intermediate Credit Bank Data. 11 pp. 1935. [Mimeographed.]

These changes in livestock prices are reflected perceptibly in the total capitalized valuation of an enterprise and materially modify the percentage of the investment chargeable to the herds. For example the difference in inventory value as between 1922 and 1928 for cattle as shown in table 31 would be an increase of 64 percent in the value of the herd. Table 32 illustrates this strikingly for even short periods. For example, inventory values in cattle decreased from 1932 to 1933 by 18 to 25 percent, whereas sheep inventories for the same period increased by approximately 33 percent. Saunderson and Vinke's studies (121) further illustrate this point. The total investment per head of Montana range sheep and the ewe value per head are estimated in table 33.

TABLE 33.—Ratio of ewe value per head to total investment in lands, herds, etc., per head, Montana, 1890-1932

| Year | Total investment per head | Ewe value per head | Assumed land, improvement, etc., value per head | Ratio of ewe value to total investment |
|-----------|---------------------------|--------------------|---|--|
| 1890----- | \$3.75 | \$2.50 | \$1.25 | 0.66 |
| 1895----- | 2.95 | 1.50 | 1.45 | .51 |
| 1900----- | 4.30 | 2.85 | 1.45 | .66 |
| 1905----- | 4.95 | 3.50 | 1.45 | .71 |
| 1910----- | 5.60 | 4.15 | 1.45 | .74 |
| 1915----- | 8.00 | 5.00 | 3.00 | .63 |
| 1920----- | 25.00 | 10.25 | 14.75 | .41 |
| 1925----- | 32.00 | 11.50 | 20.50 | .36 |
| 1930----- | 30.00 | 7.00 | 23.00 | .23 |
| 1931----- | 25.00 | 5.00 | 20.00 | .20 |
| 1932----- | 20.00 | 3.50 | 16.50 | .18 |

The difference between total investment and ewe value as shown in column 3 of table 33 is an approximate index of the amount invested per animal in lands, improvements, and facilities. From this index figure it will be noted that investment per head for lands, improvements, and facilities is low and approximately constant up to 1910, with an index figure 1.45. In 1915, the index is about doubled, and from 1920 to 1930 the index rises sharply. From these indexes the conclusion may safely be drawn that the capital investment per unit head in lands, improvements, and facilities has steadily mounted reaching a high peak in 1930. The ratios in the last column represent an approximate ratio of the investment in the breeding herd to the total investment in the enterprise, and indicate that the investment in the breeding herd has steadily declined from 1890 to 1932. This basic relationship between the percentage invested in lands and the percentage invested in livestock is of utmost importance in determining final profits and also has played no small part in shaping range management practice—much of it of a character detrimental to the range.

Total investments illustrate the whole trend of overcapitalization, from a unit head investment of \$3.75 in 1890 to a high of \$32 in 1925 and a drop to no less than \$20 in 1932.

From the standpoint of profits, the breeding herd, the basis of the salable crop, is of primary importance. Obviously, other things being equal, the producer who maintains the highest percentage of his capital investment in breeding stock will show the greatest returns.

This fact is well illustrated by a number of studies. In Wyoming (168), "operators whose investment in cattle represented at least a third of their total investment were doing better financially than those operators who had less than one-third of their investment in cattle." In Utah (103), "profits tended to decrease as the percentage of total investment represented by cattle decreased. * * * That ranch tends strongly to be profitable which has 25 percent or more of its total investment in cattle, and 35 to 45 percent is still more profitable."

One of the great difficulties in maintaining this desirable ratio, favoring the highest relative investment in livestock, particularly when livestock valuation is high, is the scarcity and availability of reasonably priced range. Home-ranch and range-land prices have, during the past two decades, attained levels far beyond their possible earning capacity, and the stockman has thus been forced to invest far too much in high-priced land. Under these conditions, if he continues to run the number of livestock that ranch and range should support adequately under normal conditions, he will inevitably find it difficult to show a fair profit on his investment, or he may even go in the red. He then resorts to a very tempting alternative which may temporarily establish a normal balance between investments in lands and investments in livestock, namely, he overstocks the ranch and range. For a short period this may bring more income and probable profits, but, if so, it is at the expense of the production capacity of the land. It is a form of exploitation which inevitably leads to range depletion. When this process has gone far enough

he finds himself in a vicious circle. The depleted range, if stocking is not reduced, produces less pounds per animal or he is forced to buy more range or lease more feed. This again destroys the economic balance he must maintain between breeding herds, investments, and production possibilities.

Even for the stockman who leases range the same processes operate where exorbitant and fictitious ranch and range land values are competitively established. On many of the western outfits prohibitive charges for leasing range have been the direct cause of overstocking, as the only means of maintaining reasonable unit-carrying costs of herds. The stockman, never assured of renewal, proceeded under these conditions to "mine" the forage crop in one season.

All agriculture, as well as the livestock industry, has suffered severely from inflated land values, which become particularly burdensome when crops must be sold in a depressed market. High land capitalization is further complicated by the fact that much ranch and range lands were purchased on partial-payment plans during periods of inflation and payments had to be met during periods of depressed prices, thus presenting a double burden of high carrying costs.

To reduce high carrying costs of land when livestock prices are low overstocking is resorted to on the false assumption that losses may be reduced. In so doing losses may temporarily be averted or deferred, but finally the basic land resource may suffer to a degree where continuance of a sustained profitable enterprise is not possible even when good markets again prevail.

Inflated land values have thus increasingly put out of balance the percentage of the capital investment which should be carried in the herd, have reduced prospective profits, induced bad husbandry, and lastly, have been a major factor in overstocking and range depletion.

THE RELATION OF PRODUCTION COSTS TO PROFITS AND RANGE DEPLETION

It is in many instances impossible to make a direct comparison of the data found in the available detailed cost-of-operation studies. Not always have the same common denominators been used; allowances are sometimes made for contributed labor and interest on investment, but it is difficult to so segregate these that safe comparisons can be drawn.

In a general way the items and amounts that enter into operating costs are reasonably well illustrated in information collected by the Federal Intermediate Credit Bank²⁰ as shown in tables 34 and 35. These represent data for 1934, a year of relative average high expense and low returns, and are reasonably representative for the 11 western States.

²⁰ See footnote to table 32, p. 195.

TABLE 34.—*Cost of grazing operation per unit head of sheep, 1934*

| Expense items | Types of lambing practice | | | Types of operation | | | Size of operation | | |
|-------------------------------|---------------------------|---------------|---------|--------------------|------------------|-----------|-------------------|--------|--------|
| | Early | Early to late | Late | Owner | Owner and lessee | Transient | Large | Medium | Small |
| Labor..... | \$1.140 | \$1.168 | \$0.836 | \$1.10 | \$1.06 | \$0.72 | \$1.09 | \$1.02 | \$0.78 |
| Feed and range..... | 2.016 | 1.387 | .796 | 1.02 | 1.41 | 1.28 | 1.46 | .98 | 1.14 |
| Carrying charges..... | 3.082 | 3.059 | 2.213 | 2.73 | 2.68 | 2.46 | 2.52 | 2.71 | 2.80 |
| Total costs..... | 6.238 | 5.614 | 3.845 | 4.85 | 5.15 | 4.46 | 5.07 | 4.71 | 4.72 |
| Detailed carrying charges: | | | | | | | | | |
| Supplies..... | .522 | .581 | .555 | .52 | .56 | .59 | .50 | .57 | .64 |
| Taxes and interest..... | .737 | .671 | .621 | .70 | .71 | .52 | .64 | .72 | .65 |
| Auto expense..... | .246 | .355 | .160 | .23 | .24 | .23 | .22 | .20 | .29 |
| Personal and insurance..... | .346 | .247 | .190 | .24 | .26 | .23 | .26 | .23 | .23 |
| Restocking (bucks, rams)..... | .064 | .061 | .040 | .05 | .04 | .05 | .04 | .01 | .11 |
| Miscellaneous..... | .329 | .235 | .110 | .17 | .25 | .14 | .25 | .18 | .11 |
| Loss and depreciation..... | .838 | .909 | .537 | .82 | .62 | .70 | .61 | .80 | .77 |

TABLE 35.—*Cost of operation per unit head of cattle, 1934*

| Expense items | Large | Medium | Small | Average |
|-----------------------------|--------|--------|--------|---------|
| Labor..... | \$1.63 | \$1.47 | \$2.50 | \$1.89 |
| Feed and range..... | 1.07 | 1.36 | 3.25 | 1.97 |
| Carrying charges..... | 9.44 | 8.11 | 7.46 | 8.23 |
| Total costs..... | 12.14 | 10.94 | 13.21 | 12.09 |
| Detailed carrying charges: | | | | |
| Supplies..... | 1.54 | 1.26 | 2.11 | 1.65 |
| Taxes and interest..... | 3.59 | 3.53 | 2.37 | 3.12 |
| Auto expense..... | .58 | .41 | .95 | .65 |
| Personal and insurance..... | .98 | .70 | .18 | .59 |
| Restocking (bulls)..... | .73 | .51 | .08 | .41 |
| Miscellaneous..... | .16 | .65 | .38 | .42 |
| Loss..... | 1.86 | 1.05 | 1.39 | 1.39 |

All the items that constitute the cost of production and which must be met ordinarily by current annual cash outlays can be grouped conveniently into three classes—labor, feed, and carrying charges. Of these, feed costs and that portion of the carrying charges directly related to the land, such as taxes, interest, or rentals for leased land, make up a substantial part of the total cost of operation.

The cost of feed and forage may become a controlling factor in profits and influence to a large extent the development of range practices. It is important, therefore, to consider how the stockman gets his feed, what it costs, and how land and range management affect the feed supply, profits, and the enterprise itself.

The western stockman obtains feed from owned or leased range lands, permitted use on national forests, free range on public domain, and by raising or purchasing supplemental feeds. As stated, the carrying costs of the commensurable lands which must produce the wild forage and supplemental crop feeds, together with the cash outlay for producing or buying feeds or for leasing range, make up a substantial part of the whole cost of production. If these total feed costs are inordinately out of line, profits diminish materially. Feed frequently makes or breaks the stockman.

Unfortunately, the stockman has never been quite sure of his feed sources. Even if he owns the land and has not abused it, there is no

certainly what the ranch or range may produce in crops or forage for any given season. The vicissitudes of climate as a factor in forage production have already been described. The forage crop may vary from year to year; it may be wiped out by a drought or lessened considerably in expected amount through a cycle of dry years.

The western stockman is just as much at the mercy of weather as any other crop farmer. Lack of rain, drying winds, low temperatures during growing seasons, all take their toll in forage production. Shortages in feed due to adverse climatic factors are in a measure largely unpredictable and uncontrollable. To meet these vagaries of climate, the prudent stockman, if he has the capital, must invest in reserve feed supplies and additional range to meet such emergencies. Otherwise he must meet the emergency in paying exorbitant prices for feed, or is forced to sell his stock far below the cost of production.

When a cycle of favorable climatic years comes, the general tendency has been to increase breeding stock to the maximum. If, with these conditions, there is also a rise in prices for stock, competition for range becomes active, land prices rise—whether for purchase or lease—and thus the coincidence of a favorable market and a good forage year may be vitiated by carrying costs of high-value land and high forage costs.

Under adverse climatic conditions, even with depressed livestock prices, the very shortage of feed induces a strong competitive market for feed and range. Good or bad forage years, the stockman unprovided with reserve feed has laid himself open, so far as feed or forage is concerned, to a high competitive market and a corresponding increase in cost of production.

These uncertainties as to availability of feed and its probable cost introduce a major factor of uncertainty and hazard in the entire enterprise. They lead the producer to gamble for large gains whenever the opportunity arises; and maximum stocking during good feed years is the most tempting gamble, generally leading to range exploitation. In time of drought the producer who has built up his operation by excessive stocking may find himself again in an acute situation, particularly as forage costs reach high levels. As stated by some observers (187), "judging from the history of the years 1886-87 and 1919-20, the occurrence of a very poor year or a succession of poor years usually means a crisis to many individual operators because of high operating expenses and great death losses among cattle." This is confirmed by another study,²¹ which states: "One hard winter or one severe drought may cause a heavier loss in 1 year than has been gained in several years by heavy stocking."

The stockman tries to meet the severe financial stresses and strains that he is subjected to by reducing carrying costs per unit head. What are these possibilities for reduction in cost of production? Some carrying charges are almost immutably fixed, such as taxes and interest on indebtedness for land and stock. He may reduce labor costs, but these form but a fraction of the total expenditures. If he reduces labor too drastically, it may be at such a sacrifice in good

²¹ Parr and Klemmedson. An Economic Study of the Costs and Methods of Range Cattle Production in North Central Texas. U. S. Dept. Agr., Bur. Agr. Econ. Prelim. Rept. 40 pp. 1925. [Mimeographed.]

care of the stock, losses from predators and poisonous plants, reduction in calf or lamb crop, and the poorer general condition and quality of the salable animals that these losses may be materially disproportionate to the gains made by decreased labor costs. He may reduce the amount of supplemental feed per animal, and here again it will be directly reflected in the condition of his herd. What he is likely to do as the easiest way out to reduce unit production cost per animal is to overstock his range.

The condition of the livestock, the percentage of lamb or calf crop, are readily detected, and the stockman is reasonably well-informed on these matters. He prizes his breeding herd as the important part of the production plant. His interest in the range is, on the contrary, less evident. In the desire to keep carrying costs per unit-head low, he may hold too many stock on the range in a bad year, figuring that the next year may be favorable and the range will revive. He overstocks in a good forage year because he is overenthusiastic about the range capacity by contrast with the poor year, and he also gambles that more good years must follow. The fact is forgotten or overlooked that the condition of the range is a major influence in the proper maintenance of the breeding herd and in the final increment of calf or lamb crop, which in the last analysis determines the ratio of income to cost of production. The effect of this is that on a very important part of his capital investment a process of attrition is initiated. This process frequently continues slowly, and is not perceptible to the owner or lessee of the range. He does not appreciate that it is cutting vitally into a part of his capital, just as important as the capital invested in the herd, and that ultimately it means an increase in the unit cost of production. Innumerable instances can be cited where land purchased on the basis of high grazing capacity, which might have been a good capital investment, because of abuse through overstocking was reduced to one-half or one-fifth of its original forage production and thus was converted into a poor investment and brought about unduly high unit-production costs. Such methods mean higher unit costs for forage, if stocks are reduced to the commensurate availability of forage; or, if the original number of stock is maintained, the reduction in weight, quality, and offspring will increase unit costs. And to this must also be added an annual depreciation charge because of the depleted values in the range.

If overstocking continues, the important forage plants slowly are reduced in number and some may even disappear. Pest plants and less desirable plants invade and immediately start their conquest of the range. If this overstocking should coincide with the prevalence of a dry cycle, not uncommon in the western range States, startlingly unfavorable changes become evident even to the most optimistic. Sheet and gulley erosion, disappearance of common perennial grasses, thin stands of annuals, closely cropped shrubs, increase in undesirable and poisonous plant species, disappearance of springs, and lowered water tables, are all signs that a range property has badly depreciated, and that one important leg of the capital structure in a given livestock enterprise has become shaky.

When this stage is reached this part of the capital structure (the range) requires restorative treatment. Restoration of former forage values is a costly process requiring labor and cash outlay. But the

first step in any positive curative process is the reduction or even total removal of stock. If depletion is not serious and is recognized early enough, reduction in numbers, more careful handling on the range, and care in preventing too early grazing may suffice and give nature an opportunity to heal the scars and renew vegetation. But depletion may reach a point where costly gully control, artificial reseeding, and grubbing of poisonous plants may be required, as well as reduction in numbers of stock grazed. Investments and improvements may be needed, such as development of new sources of water and fencing off the most seriously punished lands from all use. These costs may reach a figure of \$5 per acre, an investment frequently more than the land can carry under private ownership. Whether the producer reduces the number of stock or makes further investments to restore the productivity of the range, the yearly carrying charges must be increased, and with it the unit cost of production.

Unfortunately the stockman is rarely ready to apply the stiff remedy of reduction of stocking, even when he recognizes that the range is going back, and rarely able to make the otherwise necessary protective investments. Again he is caught in a vicious cycle, his depleted range produces poorer stock, smaller yields in calves and lambs, and higher losses. He delays as long as he can the reduction in stock and so the situation grows worse, or if he resorts to the purchase of more land, this again increases his investment in lands out of proportion with the investments in breeding herds and creates a corresponding increase in unit cost of production.

CREDIT FACILITIES AND THEIR RELATION TO PROFITS AND RANGE DEPLETION

In the past the livestock producer depended for his credits on private banks, loan associations, insurance companies, and occasionally on commission men. Since the World War, Federal banking facilities have become available, such as the War Finance Corporation, and more recently the Farm Credit Administration.

Like all agriculture, the livestock industry has suffered in the past from lack of favorable credit facilities. Loans carried high interest rates and were extended only for short-term periods. With his larger investments, the individual stockman has found the usual credit terms even more onerous than has the crop farmer. Short-term loans might suffice for current operations, incurred indebtedness, and to carry over livestock held for a more favorable market. But if he desires to build up his herd, purchase more land, improve facilities, or construct essential improvements on the range, long-term reasonably low interest-bearing loans are necessary. Excepting for land purchases, credits in the past for other needs have carried high interest rates, and rates of 9 to 10 percent were common. A study made by the Oregon Agricultural College (105) illustrates this difficulty. They found in 1925 that—

There is a considerable variation in the interest rate * * * It is, of course, a fact that many of the banks charge 9 percent and 10 percent, and it is also a fact that the cattle-loan companies charge 9 percent to 9½ percent or even 10 percent interest. * * * It is unfortunately true, however, that the cattle and sheep industries are at the present time charged the highest rates of interest known in the commercial world.

Under these conditions it is not surprising that many improvements needed to make more advantageous use of the forage were not undertaken and the range frequently suffered because of it.

For a long period of time, banks, cattle-loan associations, and, more recently, even Federal banking agencies have based their loans largely on the number of livestock owned by the borrower, without much consideration as to other assets, availability of feed, or condition of the livestock. Some banks have refused to recognize that range land had any loan value. This trend has led indirectly to building up or holding more livestock than the range could carry so as to build up collateral for loans. Obviously, if the loan were made with adequate restrictions safeguarding the range, in the long run loans would be better secured, to the advantage of borrower and lender alike. Even the Federal banking agencies have failed to recognize the full import and need for care of the collateral existing in the range. In more recent loans through the Farm Credit Administration the grazing privileges on a national forest held by the borrower has been considered as an asset and valued as collateral.

On the face of it this appears to give value to range even if not owned. This practice has been based on the theory that a national-forest permit is a negotiable asset, is revocable only for serious cause, and transferable under certain prescribed conditions. Such Federal loan agencies have also requested, in order to add security to the loan, a guarantee that the Forest Service would not make reductions in the number of stock for permits carrying loans. The Forest Service, among other reasons, has insisted and contends that to guarantee no reductions might defeat the integrity of the assets themselves if and when reductions in number of stock were necessary to safeguard the range. Dry cycles, producing adverse conditions and need for range rehabilitation may necessitate large and immediate reductions in livestock grazed. Here again the fact that the production plant of the grazier consists of herds and range has been lost sight of. In the long run the best way to protect the loan and insure sustained profits to the borrower would be to insist that the range be given proper care, whether owned or leased.

No continuous record of indebtedness carried per unit animal extending for a long period and covering a single region is available. The general evidence indicates that there was a steady but small increase in indebtedness per animal from 1880 to 1910 and that thereafter the indebtedness increased sharply. One reason for mounting indebtedness is traceable in the extension of old loans which were not reduced in 20 years.

Some examples of indebtedness may be given to show the amounts carried by the producer. In two studies made in Colorado (24, 25) in 1922-25 a total average indebtedness of \$32,446 for 800 head of stock, or \$40 per head, is reported in one instance, and in another a total average indebtedness of \$33,200 against 1,016 cows, or \$33 per cow. A study made in 1926 in New Mexico (174) reports an average total indebtedness of \$27,552 against 1,224 animal units per ranch, or \$23 per animal unit.

Indebtednesses in the northern Great Plains region in 1924 are given in table 36 (187).

TABLE 36.—*Indebtedness per ranch and per head of stock in the northern Great Plains region, 1924*

| Ranch | Stock per ranch | Cows per ranch | Indebtedness per ranch | Indebtedness per head of stock | Indebtedness for cattle only |
|--------|-----------------|----------------|------------------------|--------------------------------|------------------------------|
| | <i>Number</i> | <i>Number</i> | <i>Dollars</i> | <i>Dollars</i> | <i>Dollar</i> |
| A----- | 85 | 34 | 3,826 | 45 | 13 |
| B----- | 159 | 72 | 5,300 | 33 | 12 |
| C----- | 298 | 141 | 8,023 | 27 | 13 |
| D----- | 570 | 285 | 17,035 | 30 | 17 |
| E----- | 1,734 | 753 | 43,611 | 25 | 19 |

In this same study the average inventory value per head was placed at \$39.71. Of the total indebtedness per head of livestock on the ranch it will be seen that the chattel mortgage forms but a small part of the total.

The stockman started with small initial investments in lands and proceeded through a series of years to build up his herds to high numbers without encumbering himself with indebtedness. True, in severe years when losses both in calf and lamb crops and in breeding stock were abnormally high, he had to resort to whatever credit facilities were available to get a fresh start. Credit under such conditions was extended at almost usurious rates.

The trend of easy credits, high interest rates, and their effect on the profits of the stockman is well illustrated in certain findings in Oregon (106):

Inadequate finances often lower the profits, * * * partly because the management is in the hands of the bank or loan company. * * * If the owner has an equity of 50 percent or more in the entire plant * * * he should be able to borrow the remainder at an interest rate of not over 7 percent * * * if his equity is much less than 50 percent, he will probably have to pay 9- to 10-percent interest. * * * A 75-percent equity in a one-band outfit is much better than a 25-percent equity in three or four bands.

A significant trend in finance and banking has been in operation in the past 20 years and has contributed to increase average indebtedness. As working capital in all banks accumulated, western bankers looking for outlets encouraged expansion in the livestock industry and made credits readily available. Loans were made for the purchase of lands and stock, and frequently to many persons unqualified for the undertaking. Stockmen could not resist the temptation to expand under such easy credits, even at high-interest rates. Frequently this led to the building up of herds beyond the safe capacity of the available range. In contrast to the easy credits of good times, credits were restricted during depressions when money was most needed. Insofar as the welfare of the range is concerned, the inflexibility of credit facilities was one serious cause in keeping the number of stock out of balance with availability of range and was a contributing cause of overstocking and range depletion.

THE BANKERS' VIEWPOINT

Bankers who specialize in livestock loans developed certain points of view that reflected the attitude of the stockmen themselves. Some of the abuses in the form of inflexibility of credits, short-term char-

acter of loans, and high interest rates were the result of causes outside the immediate control of either the bankers or the stockmen. The livestock business grew up in the West as a highly speculative venture; and having built up such a reputation, it had to pay exacting penalties when it was in the market for money. The crop the grazer produces takes a long time to mature. The amount and quality of the salable crop may shrink through unpredictable losses, and the final sale price may, from day to day, month to month, and year to year, have a wide spread, frequently falling below the cost of production. On the basis of these conditions, the banker has built up a system of livestock loans. His has been a short-term point of view, with inevitable high rates and inflexibility of credit. It really has amounted to a system of loans secured, not by a production plant, consisting of ranch, range, and livestock capable of producing an annual salable crop, but by a chattel mortgage on livestock. Little consideration has been given until recently to the possibilities of building up an industry on a sustained yield management concept, wherein the whole production plant, feed, forage, and stock are kept in balance and the vagaries of market and climate are partially counterbalanced by reserves in feed and credits.

The banks and loan associations have done little in the past to discourage or eliminate bad husbandry. They have done little to encourage management practices, and yet these are the real basis of profits in a livestock enterprise, the true measure of the security of the collateral, and the safety of the loan itself. At best it is difficult to ascertain the real assets of a livestock producer. In some instances loans have been made without even a count of the stock on the range and no appraisal of the value of the stock, the range, improvements, or capacity of the borrower as a livestock manager. Bankers have often forced liquidation of well-bred breeding stock on depressed markets, further lowering general prices and with practically no returns to the producer. Good business would often have dictated further loans to buy additional feed to carry the breeding herd over the depression. At other times banks have enforced holding stock until more favorable markets without supplying funds to buy adequate feed, leaving the producer one alternative, that of keeping more livestock than the range could safely carry, and with it the inevitable sequence, overstocking, range exploitation, and range depletion.

Such myopic banking policies have not only contributed to the disruption of the livestock business but have also caused the closing of many banks that dealt in livestock loans in the West.

There are, however, many signs of a favorable change and through the facilities of the Farm Credit Administration many of these abuses can be checked. Among the more important provisions of this new governmental agency which may go a long way to stabilize the industry and ultimately safeguard the range itself are the following:

1. Overexpansion discouraged (*a*) by requiring a sound ratio between all parts of the production plant; (*b*) by requiring reasonable margins in security offered as collateral.

2. Longer periods of loans at much lower rates than were ever before available to the industry as a whole.

3. Adequate showing of range and feed for the number of stock to be handled.
4. An actual inventory, not only of stock, but range, feed, facilities, etc.
5. A check on the moral risk of the borrower with the motto—"The eyes of the master make fat cattle."

MARKETING AND ITS RELATIONSHIP TO PROFITS AND RANGE DEPLETION

The availability of favorable markets, with some degree of stability in prices for reasonable periods, is axiomatically the foundation for any self-sustained industry. The livestock producer has on the contrary never been sure of reasonably favorable market conditions where a stable price range was assured for any short period.

As might be expected, the demand for the products of the western range increased with the growth of the Nation, and its outlets to markets have been facilitated tremendously with the extension of the western links of the American railroad system. Modern livestock marketing is an outgrowth of the railroad and the cold-storage plant which has made possible the central stockyard systems and packing plant. From very simple marketing systems a complicated machinery of distribution has grown up between the ultimate consumer and livestock producer.

At present, the producer has these means of disposal of his produce—the local butcher, a local buyer, individual shipment on consignment in carload lots to a commission agent, and disposal through cooperative shipping associations. The local buyer may be an individual speculator or represent a commission agent at some central market or a local butchering concern.

The bulk of the salable livestock produced in the western range States must be marketed at central stockyards and packing points; local markets absorb but a small percentage of the total. The chief market is therefore at some distant point.

Whichever method of marketing is used, the ultimate price the producer may receive is determined by forces entirely out of his control, which may have no relation to the cost of actual production.

As one stockman has very aptly stated:

It is fundamentally unsound to expect reasonable returns if a perishable product must be taken 1,000 miles to the appraisal of a fluctuating market from which there is no retreat.

Once the stock is on its way to market, the seller is entirely at the mercy of the buyer.

Price fluctuation is well illustrated in the average prices at the Chicago market for 5 years given in table 37.

But prices fluctuate even in shorter periods of time. The periodic variations in prices illustrated in table 38 show the prices paid for lamb and beef steers by periodic averages for 1930–34 at the Chicago market. Thus we find a wide fluctuation both in yearly and even monthly prices.

TABLE 37.—Average prices per 100 pounds for beef and lambs at the Chicago market, 1930-34¹

| Year | Beef steers, 1,100 to 1,300 pounds, Good | Lambs, 90 pounds down, Good, and Choice |
|-----------|---|---|
| 1930..... | \$11. 81 | \$9. 40 |
| 1931..... | 8. 92 | 7. 77 |
| 1932..... | 7. 46 | 6. 11 |
| 1933..... | 5. 69 | 6. 63 |
| 1934..... | 7. 31 | 7. 82 |

¹ Bureau of Agricultural Economics statistics (153) and mimeographed reports for 1930-33.

TABLE 38.—Four monthly prices¹ for years 1930-34 to illustrate variation in monthly prices throughout year at Chicago market²

[Sources of data: See footnote to table 37]

| Month | 1930 | | 1931 | | 1932 | | 1933 | | 1934 | |
|--------------|----------|----------|----------|---------|---------|---------|---------|---------|---------|---------|
| | Beef | Lambs | Beef | Lambs | Beef | Lambs | Beef | Lambs | Beef | Lambs |
| January..... | \$13. 77 | \$12. 26 | \$11. 31 | \$8. 71 | \$8. 57 | \$6. 16 | \$5. 15 | \$6. 01 | \$5. 63 | \$8. 33 |
| April..... | 13. 17 | 8. 77 | 8. 72 | 9. 35 | 7. 31 | 6. 91 | 5. 33 | 5. 43 | 6. 96 | 9. 49 |
| July..... | 9. 95 | 10. 13 | 7. 36 | 7. 67 | 8. 16 | 6. 27 | 6. 15 | 7. 67 | 7. 74 | 7. 32 |
| October..... | 10. 39 | 8. 06 | 8. 94 | 6. 36 | 7. 47 | 5. 30 | 5. 55 | 6. 74 | 7. 65 | 6. 49 |

¹ Beef, 1,100 to 1,300 pounds, Good; lambs, 90 pounds, Good and Choice.

² Based on means of daily range of quotations.

What the producer ultimately receives, of course, depends on the selling price, influenced among other things by the class of stock he raises, the freight charges to market, and all the other miscellaneous handling costs from the shipping point to the slaughterhouse. As between regions, the market factor includes the freight differentials, the general class of stock produced in the region, and the season of marketing.

Table 39 (152) is a 5-year average (1930-34) for prices received by producers, as of January 15 of each year.

TABLE 39.—Five-year average of prices received by producer¹ per 100 pounds

| State | Beef | Lambs | State | Beef | Lambs |
|-----------------|---------|---------|-----------------|---------|---------|
| Montana..... | \$4. 96 | \$5. 64 | New Mexico..... | \$4. 88 | \$5. 83 |
| Idaho..... | 4. 52 | 5. 51 | Utah..... | 4. 93 | 5. 79 |
| Washington..... | 5. 10 | 5. 74 | Nevada..... | 5. 66 | 6. 26 |
| Oregon..... | 5. 49 | 5. 43 | Colorado..... | 5. 44 | 6. 84 |
| California..... | 5. 66 | 6. 76 | Wyoming..... | 5. 37 | 6. 35 |
| Arizona..... | 5. 00 | 6. 87 | | | |

The maximum regional differences for beef in this period is \$1.14 per 100 pounds as between the California-Nevada price and that for Idaho, or about \$14 per animal for a 1,200-pound steer. The maximum regional differences in lambs is \$1.44 per 100 pounds as between Arizona and Oregon, or about \$1 per animal. These major regional differences in final price received by producer on a parity basis of profits per animal can only be compensated for by corresponding reductions in actual costs of production.

The inherent differences in the prices the producer may receive for the same class of stock from region to region cannot be entirely eliminated. But more serious problems confront the livestock producer in attempting to secure a fair return for his product.

The uncertainty of price and lack of a free competitive market was early recognized. The exhaustive report of the Federal Trade Commission (165) covers this matter thoroughly. It shows that, up to 1919, five large packers held complete control of the market.

The Packers and Stockyard Act of 1921, as a result of this inquiry, sought to regulate the business of the packers by preventing unfair discriminatory or deceptive practices. The chief evil it particularly aimed to curb as relating to the livestock producer, was the monopoly the packers enjoyed and which enabled them unduly and arbitrarily to lower prices to the shipper. It attempted to secure a free and unburdened flow of livestock from the West through the stockyards and slaughtering centers. In 1926, and again in 1935, the Packers and Stockyard Act of 1921 was further amended to eliminate other marketing abuses.²²

The fluctuating in and uncertainty of prices has been the hazardous factor which in no small part has contributed to the instability of the livestock enterprise. But even under the most favorable conditions of open competition, price fluctuations from year to year may reach wide extremes. This may become particularly oppressive, because the producer has to make his cash outlays many years in advance of the marketing of his final product. If the gestation period is counted it takes, under very favorable practices, a year to produce a lamb for market, a year and a half for a baby beef, and for the usual market steer from western ranges at least 2½ years.

Even the growth of cold-storage facilities, which makes possible the evening out of supplies for consumption, does not show the expected stabilization of prices to the producer. The producer is in a constant quandary what his product may bring. It is particularly disturbing because it not only affects his current salable produce but the produce which will reach market 2 years hence and for which investment outlays are being currently incurred.

Ordinarily the producer is not a free agent to hold back sales awaiting a rising and more favorable market. Frequently, in order to meet current expenses, he must sell his stock in a most unfavorable market. If he does hold on, he often does so at the expense of the range because the hold-over stock are surpluses which ordinarily should have been moved.

²² In the *Stafford v. Wallace* case, no. 687691, an appeal of the enforcement of the Packers and Stockyard Act of 1921, Mr. Chief Justice Taft in rendering opinion of the Court stated: "The chief evil feared is the monopoly of the packers, enabling them unduly and arbitrarily to lower prices to the shipper who sells and unduly and arbitrarily to increase the price to the consumer who buys. Another evil which it sought to provide against by the act was exorbitant charges, duplication of commissions, deceptive practices in respect to prices, all made possible by collusion between the stockyards management and the commission men on the one hand, and the packers and dealers on the other. * * * The shipper whose livestock are being cared for and sold in the stockyards market is ordinarily not present at the sale, but is far away in the West. He is wholly dependent on the commission men." The Chief Justice in quoting the *Swift & Co. v. United States* (196 U. S. 375), states: "The *Swift* case presented to this Court the sufficiency of a bill of equity brought against substantially the same packing firms as those against whom this legislation is directed, charging them as a combination of dominant proportion of the dealers in fresh meat throughout the United States not to bid against each other in the livestock markets of the different States, to bid up prices for a few days in order to induce the cattlemen to send their stock to the stockyards, to fix prices at which they would sell, and to that end to restrict shipments of meat when necessary * * * and all this in a conspiracy and single connected scheme to monopolize the supply and distribution of fresh meats throughout the United States."

Depressed or glutted markets and slack sales often are the direct cause of overstocking. With restricted credits and short reserves in hay and other supplemental feeds that result from previous overstocking, the only alternative has appeared to be to further stock the ranges, owned or leased, far beyond their capacity. The aftermath of enforced hold-over has been range depletion. In holding down operating expenditures because of unfavorable markets and low prices, there is little latitude for the producer. His fixed costs remain constant, feed may even be proportionally higher than usual. He resorts to overstocking and hence range depletion as the easiest way out.

PROFITS

In comparison with other agricultural crop farming, the livestock industry, over extended periods, has experienced as great or even greater fluctuations in returns on investments. Under the most favorable conditions profits have been exceedingly high. This has attracted new capital, induced overexpansion, and brought the evils that generally follow in the wake of overproduction.

One major control on profits as between regions is the nearness to market—as indicated, this differential may mean as much as \$14 per steer and \$1 per lamb. To overcome this handicap the unfavorable regions must possess other advantages, either in cheaper lands, cheaper forage, more favorable climate, or cheaper labor.

Another control is the capital-investment relationship as between lands, herds, and improvements, and the unit size of operation. The breeding herds must be at a safe maximum that the range can support without damaging it and that will still leave reserve feed for critical years.

Still another factor is the size of the unit. This is well illustrated by data secured in many studies. Highest net returns in Utah (103) were reached by outfits having about 370 cattle. Records compiled by the Intermediate Credit Bank, twelfth district,²³ in 1934 on 3,520,000 cattle show greatest profit on outfits of 360 to 580 head. In Montana²⁴ 400 to 500 head of cattle appeared to be the size of operation under which it was possible to approach maximum efficiency; and another estimate (120) stated that net income from 100 head was \$5, from 200 head \$8, from 400 head \$12, and that above 400 the net income declined until the figure for 900 head was \$9.

For sheep the same general law of economic size applies, varying by regions. Utah figures (46) for size of outfits and percent of return are:

| | Percent return |
|---------------------|-------------------|
| Sheep: | |
| 230 to 1,000_____ | 9.0 |
| 1,001 to 2,000_____ | 13.8 |
| 2,001 to 3,000_____ | 17.8 |
| Over 3,000 _____ | 13.6 |

Records compiled by Intermediate Credit Bank, twelfth district,²⁵ in 1934 for over 9 million sheep show losses in cents per head as follows:

²³ See footnote to table 32, p. 195.

²⁴ Saunderson, M. H. Some Materials Relating to Livestock and Land Valuation. Mont. Agr. Expt. Sta., Dept. Agr. Econ. 23 pp., illus. 1935. [Mimeographed.]

²⁵ See footnote to table 32, p. 195.

| Outfit : | Cents |
|------------------------|-------|
| More than 3 bands_____ | 73 |
| 2 to 3 bands_____ | 73 |
| 1 band or less_____ | 86 |

In Wyoming (169), in 1925, ranches having between 7,001 and 8,000 ewes had a \$9.49 return; above this and below, progressively smaller returns. The smallest returns were \$2.64 for outfits of 1,000 and less and \$2.68 for outfits with 9,000 and more. In Montana (121) it was found that from the standpoint of production organization the point of maximum efficiency in size could be realized at 3,600 to 4,500 ewes.

The hazardous features of the enterprises which affect profits and induce malpractices injurious to the range have already been reviewed. The vicissitudes of climate may wipe out all profits for many years unless adequate reserve feed is maintained. Poisonous plants, animal diseases, predators, all take a toll that in bad years, on depleted range, may go beyond 10 percent of the total herd. Irregular prices, enforced hold-over, relatively high fixed costs, all affect profits adversely.

In the final analysis profits for the man in the straight livestock business without other sources of income will depend on:

1. A well-balanced outfit, as between capital investment in lands, improvements, and herds.
2. A proper size unit.
3. A carefully managed range with sufficient reserves in feed.
4. A stabilized market.
5. Reasonably long-term credit facilities.
6. Sound managerial and business skill.

KEY FINANCIAL PROBLEMS

Many causes can be assigned for what appears to be the needless exploitation and depletion of our western ranges, but underlying all of these are certain financial handicaps which influence markedly and sometimes exclusively range practices and husbandry and are detrimental to the maintenance of the forage and the soil which produces it. Sometimes initial financial difficulties start abuses on the range; often abuses once started bring the stockman into further financial difficulties. The key financial problems, which with the passing of time have been persistently acute, have influenced exploitation, and often have greatly aggravated the results of poor husbandry, can be traced to uncontrolled disadvantageous markets, uncertain and onerous credit facilities, and high carrying costs of land.

MARKETS

The most disturbing factor of the livestock industry has been the uncertainty and lack of stability of its markets. Essentially this is a common problem of all agriculture and is national in character and in scope. The ordinary workings of supply and demand as a reasonably stabilizing force have not functioned. The loss of Old World markets, fluctuating changes in per-capita meat consumption at home, the abnormal peak demands during the Great War, all have merely accentuated previously existing disturbing factors.

Without assurances of reasonably steady markets, no industry can build soundly, and when it takes 2 to 3 years to produce a salable crop the consequences of an unstable market may be utter ruin.

The livestock producer has for many years been at the mercy of the packer and processor. Regardless of supply and demand, prices were set by a controlling group and in no relation to the cost of production. Some of these abuses have been mitigated by Federal and State laws, but essentially price is not fixed by the producer but is still controlled by outside forces. High freight rates and unfavorable differentials for some regions have placed further financial difficulties in the way of assuring a fair return to the producer. Inadequate marketing facilities and lack of control in supply and demand are still matters to be solved. There is promise that through cooperative marketing and agricultural-adjustment programs stabilization and fair prices may be attained.

CREDITS

Another financial difficulty of national character in the past has been the lack of adequate facilities for credits. The essential weakness in the credit system has been its assumption that the livestock enterprise was a gamble and a venturesome business, and its consequent extension only of short-term credits at high interest. This credit policy in no small measure contributed to mismanaged range. The unsound basis for loans, which ignored the care of the range and considered the number of stock as the basis for collateral, the easy markets during prosperous times, and restricted credits during depressed markets, have not been conducive to far-sighted plans for range management but rather encouraged liquidation of profits out of the range itself.

ERRONEOUS FINANCIAL PHILOSOPHY

The practices of the "free range" days laid too much emphasis on placing all the capital investments in livestock without regard to required investments in lands. The pioneer days of the open range constituted, as reported elsewhere, a period when the wealth of the stockman was measured by the total number of livestock he owned. His home ranch and improvements made up but a small portion of his total investment. As long as he could keep competitors off the virgin range, his task was merely the handling of his stock. Good years brought him big profits and bad years sometimes wiped him out. The predominant incentive of the open free range was the desire to increase stock ownership to the maximum. Even when competition for the open range became acute and some attempts at apportioning areas between the graziers was voluntarily initiated, the desire to maintain the largest possible herds persisted.

To secure a more permanent foothold, the more farseeing and prudent, through purchase, accumulated lands within or adjacent to the publicly open ranges. There was never, however, any sense of individual security that the open range used would not be encroached upon. This led to many a bitter range strife—particularly between cattlemen and sheepmen. While the industry suffered in these vicious struggles, the range, the basic resource for their indus-

try, suffered even more acutely and permanently. In many places, the open public range was "eaten or trampled into the ground" in this competitive strife, and—still worse—this range exploitation persisted on the public domain and likewise on privately owned or leased ranges held in single ownership.

A clear understanding that the condition of the range reflects the solvency and opportunity for profits of the livestock enterprise is not universally accepted.

HIGH LAND VALUES

Unsound expansion by operators in lands and stock have reflected the attitude of a new pioneer country, where superexpansion overrides a slower, but surer and sounder planned economy. The urge to secure a foothold on the range, and then control, brought the inevitable rise in land prices beyond anything that any husbandry could long support. High prices for poor or mediocre range lands was just another straw on an already overloaded camel's back. In the wake of expansion and high land prices came also the inevitable rise in the tax base and increased taxes. These encouraged the building up of excessive local governmental service which could not be permanently sustained. When a break in the flow of taxes came, tax delinquency brought complete break-down of local governmental functions even below the margin that a rural American community should have.

These financial problems all induced exploitation and short-term points of view regarding the ranch and range, and with these came depletion of the valuable natural resource, the foundation for a profitable and enduring livestock business.



